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A REVIEW OF THE GENUS XIPHOCOLAPTES OF LESSON.

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Two specimens of an unknown species of this genus, from Costa Rica, having been sent to me for identification by the director of the Costa Rica National Museum, I found myself led into an investigation which, contrary to my expectation or desire, has involved a very considerable amount of labor and research. Fortunately, the National Museum collection, re-enforced by specimens in the collections of the American Museum of Natural History, in New York, the Boston Society of Natural History, and the Museum of Comparative Zoology, in Cambridge, has afforded me fair material to work upon, and my thanks are due to the officers of those institutions who have kindly placed this material in my hands for study.

Somewhat to my surprise, the existence of a much greater number of clearly-defined forms than have been recognized by leading authorities soon became apparent; and a strict regard for the principles of geographical distribution and variation has left me no other resource than to describe a considerable number as new to science, even though by so doing the number of the latter exactly equals that of those which have hitherto been recognized as valid.

Until the two Costa Rican specimens above mentioned were obtained no representative of the genus was known to occur in any portion of the continent lying between Guatemala and the interior of Colombia, and there are still extensive regions in South America of which the same may still be said. Consequently, it is quite certain that when more extensive collections have been made in those regions and the birds of other portions of the "great bird continent" are better known, the number of forms will be considerably further increased.

It is also very likely that more material will show that several of the forms now ranked as distinct species actually intergrade, thus being entitled only to trinomial instead of binomial appellations.

Genus *Xiphocolaptes* LESSON.

Xiphocolaptes LESS., Rev. Zool., 1840, 269 (type, *Dendrocopus albicollis* VIEILL.).—CAB. & HEINE, Mus. Hein., II, 1859, 35, 36.—SCL., Cat. Am. B., 1861, 163, 164 (excl.

X. perrotii, = *Dendrexetastes perrotii*).—SCL. & SALV., Nom. Neotr., 1873, 68.

Dendrocolaptes (part) LAFR., Rev. et Mag. Zool., 1850, 98-104.

“*Dendrocopus* RCHB., 1853 (*nee* VIEILL., 1815).”

GEN. CHAR.—Size, largest of the family, except genera *Nasica** and *Drymornis*† (total length about 11.00-13.00, wing 4.70-6.00); bill, from rictus, nearly twice the length of the tarsus, slightly curved, much compressed; tarsus longer than middle toe, the outer toe equal to the middle; wing longer than tail, third to sixth quill longest (fourth or fifth a little longer than third and sixth), the primaries exceeding the secondaries by much less than length of tarsus; tail graduated, the feathers hard, with very rigid, sharp-pointed shafts. Color: Remiges and rectrices chestnut or cinnamon-rufous, the inner webs of longer primaries tipped with dusky; rest of plumage brownish (chiefly cinnamon-rufous in *X. major*), the breast, etc., with more or less distinct streaks of paler, the pileum and hind-neck (rarely the back) usually also streaked.

The genera most nearly allied to *Xiphocolaptes* are *Nasica* Lesson, *Dendrexetastes* Eyton,‡ and *Dendrocolaptes* Heermann.§ They are all readily distinguished, however, by the following characters:

- a*¹. Bill much compressed, its width at gonydeal angle little if any more than half its height at same place.
- b*¹. Bill extremely long, its length from nostril more than twice the length of the tarsus *Nasica*.
- b*². Bill moderately long, its length from nostril less than one and a half times the length of the tarsus *Xiphocolaptes*.
- a*². Bill not compressed, its width at gonydeal angle nearly equal to its height at same place.
- b*¹. Bill from nostril longer than tarsus *Dendrocolaptes*.
- b*². Bill from nostril not longer than tarsus *Dendrexetastes*.

HAB.—Southern Mexico to Argentine Republic, Paraguay, and Peru.

KEY TO SPECIES.

(Omitting those which I have not seen, excepting *X. simpliciceps* Lafr.)

- a*¹. Back and scapulars brown, very different from the cinnamon-rufous or chestnut of remiges and tail.
- b*¹. Pileum and hind neck streaked with paler.
- c*¹. Pileum and hind neck sharply (though sometimes very narrowly) streaked, the ground color more or less darker than the back.

* *Nasica* LESS., Traité, I, 1831, 311 (type, *N. nalis* LESS., = *Dendrocolaptes longirostris* LICHT.).

† *Drymornis* EYTON, Jardine's Contr. Orn., 1852, 23 (type, *D. bridgesii* EYT.).

‡ *Dendrexetastes* EYT., Jardine's Contr. Orn., 1851, 76 (type, *D. capitoides* EYT., = *Dendrocolaptes temmincki* LAFR.).

§ *Dendrocolaptes* HEERM., Obs. Zool., 1804, 135 (type, *Picus certhia* BODD.).

- d¹. Belly and under tail-coverts distinctly barred with dusky.
 e¹. Bars on belly, etc., very distinct and continuous; pileum black, broadly streaked; tail dark chestnut. *Hab.*, Brazil.
X. albicollis (VIEILL.) (p. 3).
- e². Bars on belly, etc., less distinct, in places more or less concealed or interrupted; pileum dusky brown, narrowly streaked; tail clear chestnut. *Hab.*, Southern Mexico *X. sclateri* RIDGW. (p. 6).
- d². Belly and under tail-coverts not distinctly barred with dusky.
 e¹. Middle of belly with very faint bars or transverse spots.
 f¹. Breast very narrowly streaked. *Hab.* Guatemala.
X. emigrans SCL. (p. 7).
- f². Breast broadly streaked. *Hab.* Costa Rica.
X. emigrans costaricensis RIDGW. (p. 8).
- e². Whole belly spotted with black (the spots in two rows on each feather, separated by a more or less distinct buffy streak).
 f¹. Pileum broadly streaked (streaks much broader than shafts of the feathers).
 g¹. Brown of lower parts, back, etc., of a ruddy or tawny hue; bill slender, blackish; wing-coverts without streaks. *Hab.* Colombia.
X. promeropirhynchus, LESS. (p. 10).
- g². Brown of lower parts, back, etc., of an olive hue; bill stouter, light horn-color; lesser and middle wing-coverts streaked with buff. *Hab.* unknown *X. virgatus* RIDGW. (p. 11).
- f². Pileum very narrowly streaked (streaks nearly or quite confined to the shafts).
 g². Rusty-brown above, tawny-brown below, the tail clear rufous, like wings. *Hab.* Ecuador *X. ignotus* RIDGW. (p. 13).
- g². Rich umber-brown above and below; tail very dark chestnut, much darker than deep chestnut wings. *Hab.* Ecuador to Peru.
X. compressirostris TACZAN. (p. 18).
- e². Pileum indistinctly streaked, and not darker than back. (Pileum and back cinnamon-brown, the former narrowly and indistinctly streaked with pale cinnamon or rusty buff; beneath pale wood-brown, streaked with light buff.) *Hab.* Northeastern Brazil (Bahia).
X. cinnamomeus RIDGW. (p. 15).
- b¹. Pileum and hind-neck without streaks (otherwise much like *X. compressirostris*).
Hab. Bolivia *X. simpliciceps* LAFR. (p. 13).
- a². Back and scapulars bright cinnamon-rufous, like wings and tail.
 b¹. Beneath pale cinnamon, with broader buffy streaks, the throat much paler; under tail-coverts light cinnamon-rufous; above cinnamon-rufous. *Hab.* Paraguay and Argentine Republic *X. major* VIEILL. (p. 16).
- b². Beneath deep cinnamon-rusty, with much narrower buffy streaks, the throat much duller but scarcely paler; under tail-coverts bright chestnut; upper parts bright chestnut. *Hab.* Bolivia *X. major castaneus* RIDGW. (p. 17).

***Xiphocolaptes albicollis* (VIEILL.).**

Dendrocopus albicollis VIEILL., Nouv. Dict., XXVI, 1818, 117; Enc. Méth., 1823, 625 (Brazil).—REICH., Handb., I, 1850, 189, pl. 539, fig. 3692.

Dendrocolaptes albicollis GRAY, Gen. B., I, 1849, 140.—BONAP., Consp., I, 1850, 287.—LAFR., Rev. et Mag. Zool., 1850, 98.

Xiphocolaptes albicollis CAB. & HEINE, Mus. Hein., II, 1859, 36 (Brazil).—SCL., Ibis, 1859, 118; Cat. Am. B., 1861, 163 (S. E. Brazil).—SCL. & SALV., Ex. Orn., I, 1869, 72; Nom. Neotr., 1873, 63.—VON BERL., J. f. O., 1873, 253 (Sta. Catarina).—WHITE, P. Z. S., 1882, 613 (Misiones, Arg. Rep.).—VON BERL. & VON JAERING, Zeitschr. für Orn., 1885, 145 (Taquara and Arroio Grande, Prov. Rio Grande do Sul).—SCL. & HUDSON, Arg. Orn., I, 1888, 200 (Misiones).

Dendrocolaptes decumanus LICHT., Abh. Ak. Berl., 1820, 256, pl. 1, fig. 1; Verz. Doubl., 1823, 16.—SPIX, Av. Bras., I, 1824, 86, pl. 87 (Arapacu).—BURM., Syst. Ueb., III, 1856, 10.

Xiphocolaptes decumanus LESS., Rev. Zool., 1840, 269.

Dendrocolaptes crassirostris SUCH, Zool. Jour., 1826, II, 115.

Dendrocops crassirostris LAFR., Rev. et Mag. Zool., 1851, 325.

Dendrocolaptes guttatus MAX., Beitr., III, 1831, 1120 (Rio de Janeiro, Capo Frio, and Espiritu Santo; *nec* LICHT.).

HAB.—Eastern Brazil, north to Bahia, south to northern portion of Argentine Republic (Misiones, etc.).

SP. CHAR.—Pileum and hind-neck black, rather broadly streaked with buff; whole belly, thighs, anal region, and under tail-coverts distinctly and regularly barred with blackish; chin and nearly whole throat white or pale buff; tail dark or dull chestnut, contrasting with color of upper tail-coverts.

Adult (No. 36770, Rio de Janeiro, Brazil; Natural History Museum of Rio).—Pileum and hind-neck black, broadly streaked with buff, some of the streaks of guttate form; back and scapulars raw-umber, outer surface of closed wings similar, but browner (nearly a mummy-brown hue); upper back narrowly streaked with buff; lower back tawny brown or mummy brown, deepening into rusty chestnut on rump and upper tail-coverts; tail dark chestnut, the shafts still darker; inner webs of remiges clear light chestnut, the terminal portion, however, dusky. Lores, suborbital region, ear-coverts, and narrow superciliary stripe pale buff, narrowly and indistinctly streaked (except the first) with dusky; upper portion of auricular region blackish, streaked with buff, forming a broken postocular stripe; malar region brownish black, marked with guttate spots or streaks of buff. Chin and throat plain buffy white; rest of under parts light raw-umber, tinged with tawny, brighter and deeper on sides and flanks, paler and more tawny on belly, thighs, anal region, and under tail-coverts (the latter more rusty), which are distinctly and regularly barred with blackish; chest, breast, and sides narrowly striped with pale dull buff, the streaks becoming much narrower posteriorly, those along the median line, quite to the white of the throat, margined with small dusky-brown spots. Under wing coverts pale tawny or light ochraceous, barred with black. Upper mandible brownish black; lower mandible brownish in middle portion, dark grayish basally, blackish at tip and horn-whitish on gonys; legs and feet olive-dusky. Length (skin), 11.90; wing, 5.30; tail, 5.10; culmen, 2.10; depth of bill at angle of gonys, .40; tarsus, 1.22; middle toe, 1.00.

Young.—According to Count von Berlepsch (*l. c.*), the young have shorter bills and broad rusty yellow guttate spots, instead of streaks, on the top of the head.

Among the eight adult examples of this species which have been examined in connection with the present review, are some notable variations of color, correlated with difference of locality, which if shared by

additional specimens would necessitate the recognition of at least two geographical races in addition to the typical form. The specimens examined are as follows:

- a. No. 36770, U. S. Nat. Mus., Rio de Janeiro; Natural History Museum of Rio
- b. No. 36769, U. S. Nat. Mus., Rio de Janeiro; Natural History Museum of Rio.
- c. No. 24016, U. S. Nat. Mus., "South America (Cruise of the *Delaware*) Dr. G. R. Horner."
- d. No. 24035, U. S. Nat. Mus., Sta. Catarina; Lemuel Wells.
- e. No. 116630, U. S. Nat. Mus., Sta. Catarina; Lemuel Wells.
- f. No. 14726, U. S. Nat. Mus., Buenos Ayres; J. K. Townsend.
- g. No. 17966, Mus. Comp. Zoology, Thayer expedition. (Locality not given.)
- h. No. ———, Am. Mus. Nat. Hist., "Brazil?"; Lawrence collection.

Specimens *a*, *b*, *c*, and *h* are typical *X. albicollis*, having the rump and upper tail-coverts rusty-chestnut (the lower back, even, tinged with the same), and the under surface strongly tinged with tawny.

Specimens *d* and *e* (from Sta. Catarina) have the rump and upper tail-coverts olivaceous-russet, only slightly tinged with rusty (this tinge confined to upper tail-coverts in specimen *d*), the under parts much less tawny, the buffy streaks on pileum slightly narrower and paler, and the bill decidedly smaller and more slender, and uniform brownish black in color, instead of having the under mandible (and sometimes terminal portion of the upper) mostly horn-colored.

Specimen *g* is nearly intermediate, having the more tawny under parts of true *X. albicollis*, the small, slender, wholly black bill of Sta. Catarina specimens, and the color of the rump and upper tail-coverts intermediate between the two, or russet, becoming deeper on upper tail-coverts.

Specimen *f* (from Buenos Ayres) is particularly different in color from true *X. albicollis*, and unless the peculiar coloration may be due, more or less, to exposure to the light (it having been mounted for many years) is different enough to be considered specifically distinct. The ground color of the pileum and hind-neck, instead of being black is dull sepia-brown, with the streaks dull buffy-whitish; the back, scapulars, and almost the whole of the outer surface of the closed wing are dull grayish-brown or pale sepia, the lower back, rump, and upper tail-coverts browner, but not approaching rusty, though the upper tail-coverts have a tinge of light Mars-brown. The tail and the inner webs of the remiges are dull chestnut, much lighter as well as duller than in typical *X. albicollis*; the ground color of the under parts of the body is light grayish-brown or broccoli-brown, the streaks dull whitish. Should other examples from Buenos Ayres prove to be similar to this one, I propose that the bird be called *Xiphocolaptes argentinus* or *X. albicollis argentinus*.

The measurements of these specimens are as follows:

	Total length.	Wing.	Tail.	Culmen.	Depth of bill.	Tarsus.	Mid. toe.	
a.	12.10	5.30	5.20	2.00	.42	1.22	1.02	Bill broken off near base.
b.	11.90	5.30	5.10	2.10	.40	1.22	1.00	
c.	.....	5.20	5.00	.....	.....	1.25	1.02
d.	11.50	4.70	4.50	2.05	.32	1.20	1.08	
e.	11.20	5.05	4.55	1.95	.35	1.18	1.05	Middle tail-feathers wanting.
f.	(11.50)	5.30	.....	2.08	.38	.....	.....
g.	11.75	5.20	5.05	2.03	.40	1.23	1.05	
h.	12.40	5.30	4.90	2.18	.38	1.18	1.05	

It will thus be seen that not only do the two Sta. Catarina specimens (*d* and *e*) have smaller or more slender bills, but they also have shorter wings and tails than those from other localities.

Xiphocolaptes sclateri, sp. nov.

"*Xiphocolaptes albicollis* (VIEILL.)?" SCL., P. Z. S., 1857, 202 (vicinity of Jalapa).
Xiphocolaptes cinigrans (part) SCL., Ibis, 1859, 118 (Jalapa).—SCL. & SALV., Ex. Orn., pt. v, December, 1867, 69 (part).—SUMICHR., Mem. Bost. Soc., I, 1869, 554 (Vera Cruz).

SP. CHAR.—Similar to *X. albicollis* (Vieill.), but larger, with longer bill, narrower streaks on pileum and hind neck, and less distinct bars on abdomen.

HAB.—Southeastern Mexico (mountains of Vera Cruz).

Adult (type, No. 37442, Orizaba, Mexico; Prof. F. Sumichrast).—Pileum brownish black, each feather with a sharply-defined narrow mesial streak of pale buff; hind-neck, back, and scapulars olive-brown, the first streaked like the pileum, the upper back with much narrower streaks or shaft-lines; rump and upper tail-coverts bright cinnamon-rufous, the lower back tinged with the same; wings slightly paler cinnamon-rufous, the exposed portion of the coverts mostly light olive-brown, the primaries and secondaries indistinctly edged with the same; tail clear chestnut, with shafts of the feathers mostly dusky. Sides of head streaked with dark olive-brown and pale buffy, the latter prevailing on superciliary and orbital regions and ear-coverts, the former on upper portion of ear coverts and on malar region. Chin and upper throat buffy white, deepening into light buff on lower throat; fore-neck, sides of neck, chest, and breast light olive brown, inclining to raw-umber, each feather marked with a distinct mesial streak of buffy whitish; sides and flanks raw-umber, tinged with cinnamon-tawny, the first with very narrow paler streaks; belly and under tail-coverts light olive-tawny, barred or transversely spotted with dusky, the feathers with very fine paler shaft-streaks; axillars and under wing-coverts ochraceous, barred with dusky. Upper mandible dark horn-color, lower bluish dusky (plumbeous in life?); legs and feet greenish dusky (dark olive in life?). Length (skin), 12.50; wing, 5.60; tail, 5.60; culmen, 2.30; depth of bill at angle, .40; tarsus, 1.30; middle toe, 1.12.

An adult from Orizaba in the collection of the Museum of Comparative Zoology, Cambridge, Massachusetts (No. 31837), is like the one described above, but is slightly more olivaceous beneath, the upper belly somewhat tinged with tawny, and the outer surface of the remiges (except tertials) more strongly washed with brown. The bill is also somewhat paler, being tinged with horn-whitish on terminal portion of the culmen, and on the gonys. Length (skin), 13.00; wing, 5.55; tail, 5.30; culmen, 2.35; depth of bill at angle, .40; tarsus, 1.32; middle toe, 1.12.

I am less surprised that this very distinct species should have been at first referred to *X. albicollis* than that it could afterwards have been considered the same as the Guatemalan *X. emigrans*.

Xiphocolaptes emigrans SCL.

Xiphocolaptes emigrans SCL., Ibis, April, 1859, 118, 127 (Guatemala); Cat. Am. B., 1861, 163.—CAB. & HEINE, Mus. Hein., II, 1859, 36.—SCL. & SALV., Ex. Orn., I, 1869, pl. 35 (part; Guatemala); Nom. Neotr., 1873, 68 (part).

SP. CHAR.—Pileum bistre-brown, narrowly streaked with pale buffy; lower parts raw-umber, the belly without distinct markings, the throat striped with pale buff or dull buffy white, and chest very narrowly streaked with the same; malar region dark bistre, narrowly streaked with pale tawny.

HAB.—Guatemala.

Adult (Lawrence collection, Am. Mus. Nat. Hist., Guatemala; J. G. Bell).—Pileum dark bistre, each feather with a narrow mesial streak of pale buffy; hind-neck similar, but paler brown, with still narrower streaks; back and scapulars plain brown (intermediate between bistre and mummy brown), the wing-coverts similar, but tinged with rusty, the inner web of greater and primary coverts rusty chestnut; remiges clear chestnut, the outer web of primaries mostly light mummy brown, and terminal portion of inner web of five outer quills dusky; lower back, rump, and upper tail-coverts rusty chestnut; tail deep chestnut, with shafts darker (dusky on middle feathers except toward tips). Lores dull brownish whitish; superciliary region broadly streaked with pale dull buffy; suborbital region and auriculars (except along upper margin) dull brownish whitish streaked with dark brown; malar region deep bistre, narrowly streaked with pale tawny. Chin brownish white or pale dull buffy tinged with brown; upper throat similar, broadly streaked or striped with raw umber; rest of lower parts raw-umber brown, the lower throat broadly and chest narrowly streaked with pale buffy, the breast and anterior portion of sides with very narrow shaft-streaks of the same; belly, anal region, and under tail-coverts marked with small, indistinct, transverse spots of grayish brown; axillars and under wing-coverts pale tawny or ochraceous barred or transversely spotted with blackish brown. Bill horn-color, paler on terminal half of upper mandible, the basal half of lower mandible grayish or bluish

horn-color; feet greenish horn-color, the claws pale brownish. Length (skin), 10.60; wing, 5.50; tail, 5.00; culmen, 2.10; depth of bill at gonydeal angle, .40; tarsus, 1.18; middle toe, 1.05.

Xiphocolaptes emigrans costaricensis RIDGW.

Xiphocolaptes emigrans costaricensis RIDGW., Proc. U. S. Nat. Mus., xi, 1889, 541.

SUBSP. CHAR.—Similar to *X. emigrans* Sel., from Guatemala, but slightly larger, and with streaks on breast, etc., broader.

HAB.—Costa Rica (Naranjo, Cartago).

Adult male (type, No. 115041, U. S. Nat. Mus., Naranjo, Cartago, Costa Rica, August, 1886, J. C. Zeledon).—Pileum dusky sepia brown, each feather with a very distinct mesial streak of pale dull buffy, the ground color gradually changing on occiput, hind-neck and back into raw-umber, tinged with rusty, the streaks at the same time becoming narrower until they disappear altogether about the middle of the upper back; lower back, rump, and upper tail-coverts light reddish chestnut; remiges and rectrices rather deeper, or clear chestnut, the shafts of the latter becoming blackish basally; wing-coverts and outer webs of primaries and their coverts light raw-umber. Sides of head streaked with pale dull buffy and dark sepia, the latter prevailing on malar region, the former immediately above, forming two ill-defined, rather broad, stripes; chin and upper throat plain pale dull buffy; rest of lower parts raw-umber, tinged with rusty or tawny, the chest, upper breast, and sides of neck rather broadly and very distinctly streaked with very pale buffy, the other lower parts much more narrowly and indistinctly streaked with the same; middle portion of lower belly marked with a few transverse spots of blackish, arranged transversely, but not forming continuous bars; under wing-coverts light ochraceous, transversely spotted with blackish, these spots on both webs of the feathers, but those of opposite webs separated by a median space of ochraceous. Bill light grayish horn-color, darker basally; feet dusky horn-color; "iris dark." Length (skin), 10.90; wing (quills worn at tips and some of them moulting), 5.70; tail (middle feathers not full grown), 5.10; culmen, 2.20; bill from nostril, 1.53; depth at angle of gonyes, .40; tarsus, 1.30.

Immature female (No. 2006, coll. Costa Rica National Museum, same locality, etc.).—Pileum dull black, changing to bistre-brown on occiput, each feather marked with a distinct mesial streak of pale brownish buff; hind-neck and upper back lighter and clearer brown* than occiput, but similarly streaked, though the streaks become much narrower on the back; scapulars and lesser wing-coverts similar in color to the back, but without streaks; middle and greater coverts similar, but tinged with rusty; remiges clear, rather light, chestnut, the primaries edged with light bistre; primary coverts light bistre, with median portion

* Intermediate between the bistre and mummy-brown of my "Nomenclature of Colors."

chestnut; lower back, rump, and upper tail-coverts bright reddish chestnut; tail clear chestnut, with shafts becoming blackish basally. Sides of head streaked with dark bistre and light dull buffy, the latter prevailing on orbital region and ear-coverts, the former on malar region; chin and upper throat plain pale grayish buffy, the lower throat similar but indistinctly spotted or mottled with brownish; sides of neck, chest, and under parts generally, raw-umber, more rufescent on sides and lower tail-coverts; sides of neck narrowly streaked with pale brownish buffy; chest and upper breast broadly streaked with a paler and duller tint of the same, each streak margined laterally by a narrower dusky streak; lower breast and belly with similar but much narrower and less distinct streaks, the middle and lower portion of the latter marked with small transverse spots of dusky, in transverse series, but not forming continuous bars; under tail-coverts very indistinctly streaked with paler and faintly spotted with dusky. Bill horn-color, feet dusky, "iris dark." Length (skin), 11.75; wing, 5.50; tail, 5.30; culmen, 1.90.

Compared with a typical example of *X. emigrans* Sel., from Guatemala (in the Lawrence collection, American Museum Nat. Hist.), the resemblance is so very close as to leave no doubt as to their specific identity, such differences as are observable being not more than sufficient to characterize a local race. These consist, in addition to those mentioned in the diagnosis, in the longer, rather narrower bill (culmen 2.20 instead of 2.10, depth at gonydeal angle .40 instead of .42), longer wing (5.70 instead of 5.45) and tail (5.10 instead of 4.85), much broader streaks on chest, etc., and absence of distinct brown stripes on the throat.

'When the two specimens described above were first received I was able to compare them only with two specimens of so-called *X. emigrans* from Southern Mexico (Jalapa), from which they were so very different that I considered them specifically distinct. At the same time I was greatly puzzled by several very marked discrepancies between Mr. Selater's (and other) descriptions of *X. emigrans* and the characters of the Crizaba specimens, the latter having the belly distinctly barred with dusky instead of having this feature entirely absent, the tail 4.70 to 5.00 inches (measured from insertion of the middle feathers) instead of 4.50, and the bill mainly dusky instead of "a dirty horn-colored white." The matter was quite cleared up, however, when I received (from the authorities of the American Museum, in New York) a specimen of the true *X. emigrans*, from Guatemala, agreeing entirely with Dr. Selater's description, and so different from all Mexican examples I have seen that I can not avoid considering them specifically distinct.*

The immature bird described above, with its rather darker colors, smaller and darker bill, and dusky margins to the pale buffy streaks on the breast, etc., presents a rather close general resemblance to *X. promeropirhynchus*, from Colombia, four specimens of which are now before me. But the bill is much deeper, as well as less curved, the rump much

* *X. selateri*, sp. nov., described on pp. 6-7.

more extensively chestnut, the throat whiter, and the belly much less distinctly spotted. The adult does not at all resemble *X. promeropirhynchus*.*

Xiphocolaptes promeropirhynchus (LESS.).

Dendrocolaptes promeropirhynchus (LESS.), Rev. Zool., 1840, 270.—LAFR., Rev. et Mag. Zool., 1850, 99 (Colombia).—SCL., P. Z. S., 1855, 142 (Bogota).

Dendrocolaptes promeropirhynchus REICH., Handb., I, 1850, 190, pl. 536, fig. 3678.

Xiphocolaptes promeropirhynchus CAB. & HEINE, Mus. Hein., II, 1859, 36 (New Granada).—SCL., Cat. Am. B., 1861, 163 (Bogota).—SCL. & SALV., Ex. Orn., I, 1869, 72 (part); Nom. Neotr., 1873, 68 (part).

Picolaptes promeropirhynchus GRAY, Gen. B., I, 1840, 140.

SP. CHAR.—Pileum bistre-brown, very narrowly streaked with light tawny; chin and throat dull light tawny or brownish-buff; rest of under parts raw umber-brown, broadly streaked with brownish-buff or light tawny, these streaks usually (?) with indistinct dusky margins; belly brownish-tawny, streaked with paler, and spotted with dusky. Bill dusky, smaller than in any other member of the genus (calmed not more than 2.00, usually much less).

HAB.—Colombia (vicinity of Bogota).

Adult (No. 88457, Bogota; obtained from Count von Berlepsch).—Pileum deep bistre, this color gradually fading on hind-neck, back, scapulars, and lesser and middle wing-coverts into raw-umber brown, with a slight tawny tinge, the pileum and hind-neck very narrowly streaked with buff, the upper portion of the back with still narrower streaks of the same; lower back russet, deepening into chestnut on rump and upper tail-coverts; tail deep chestnut, the shafts brighter or redder, becoming darker basally; outer webs of greater and primary wing-coverts tawny brown or raw-umber, like back, their inner webs chestnut (a little lighter than tail), the outer webs of exterior primaries inclining to raw-umber, the terminal portion of inner webs of seven outer quills dusky brown. Loes, suborbital region, and auriculars buff, the latter sparsely streaked with dark brown, this more extended along upper portion, producing an indistinct postocular stripe, bordered above by a stripe of broad buff streaks; malar region dark bistre marked with guttate streaks of buff. Chin dull brownish-white, deepening into brownish-buff on throat; rest of under parts raw-umber, becoming paler and more tawny on belly; the chest, breast, and anterior portion of sides rather broadly streaked † with buff, the belly with wider but less sharply defined serrated streaks margined on each side by a row of dusky spots; under tail-coverts mummy-brown, with pale tawny shaft-streaks; axillars and under wing-coverts tawny ochraceous, spotted

* The young specimen was at first, before the description was published, made the type, on account of its fresher plumage. It was sent for examination to Dr. Selater, who returned it with the observation that it was the same as *X. promeropirhynchus*. Had he seen the adult specimen, however, I am sure he would not have made this mistake.

† Streaks about .08 wide anteriorly, but much narrower posteriorly and reduced to mere shaft-lines on sides.

with dusky. Bill blackish, horn-color, feet grayish-black. Length (skin), 10.50; wing, 5.60; tail, 5.50; culmen, 1.80; depth of bill at gonydeal angle, .35; tarsus, 1.27; middle toe, 1.10.

Three adults from Bogota in the collection of the American Museum of Natural History (Lawrence collection) are essentially similar, but have the streaks on lower parts broader and extending quite to the belly and flanks, and indistinctly margined along each side with dusky; the belly more heavily spotted with dusky or blackish; two of them having the under tail-coverts spotted.

Their measure as follows:

	Total length.*	Wings.	Tail.	Culmen.	Depth of bill at angle.	Tarsus.	Middle toe.
a.	10.30	5.70	5.50	2.00	.35	1.27	1.03
b.	9.70	5.35	5.15	1.75	.....	1.25	1.00
c.	10.60	5.60	5.25	2.00	.37	1.25	1.10

This species may very readily be distinguished from its allies by the very small, dark-colored bill (smaller than in any other member of the genus), and from all except *X. compressirostris* Taczan., by the very deep coloration, with distinctly spotted belly. All the skins examined are of the well-known "Bogota" make.

It is hardly possible to determine from the description (Rev. Zool., 1840, 270†) what species Lesson intended to describe under the name *Dendrocolaptes promeropirhynchus*, the uncertainty being rendered still greater by the fact that he gave no locality. Lafresnaye, however, re-described the species (Rev. et Mag. de Zool., 1850, pp. 99, 100), and assigned to it the habitat "Colombia" ("satis frequens"); and, presuming that he had examined Lesson's type, I follow the general custom of identifying Lesson's name with the Bogota bird.

Xiphocolaptes virgatus, sp. nov.

SP. CHAR.—Most like *X. promeropirhynchus* (Less.), but paler and grayer on anterior upper parts, the back conspicuously streaked with pale buffy; under parts much less tawny, with stripes broader; bill stouter, light grayish horn-color, dusky only at base.

HAB.—Unknown.

Adult (type in Coll. Am. Mus. Nat. Hist., without number, locality, or other data).—Pileum dull, dusky olive or olive-bistre, dis-

* These measurements of total length are of course of little value, since they depend wholly on the "make" of the skins.

† "Bill, .05^m (or 25 lines long), very compressed, arched, black. Top of head dead black, with an oblong spot of buff ("rouille") in the middle of each feather. Neck above and back reddish-olive, with a rufous yellow line in the middle of each feather. Wings, rump, and tail cinnamon. Chin white; front and sides of neck, thorax, and flanks yellowish-olive, with a longitudinal streak of yellowish-white in the center of each feather. Middle of belly with three to four series of black spots. Under [tail?] coverts rufous, spotted with black and with a light stripe in the middle. Tarsi black. Total length, .33^m (12 inches)." (Translation.)

tinctly streaked with pale buffy (streaks about as wide as in *X. promeropirhynchus*); hind-neck and back light olive-brown, narrowly but very distinctly streaked with pale buffy; lesser and middle wing-coverts and anterior scapulars similar, but the more anterior lesser coverts tinged with rusty; posterior scapulars, greater and primary coverts, and lower back plain raw-umber brown, becoming more russet posteriorly, the rump and upper tail-coverts inclining to rusty chestnut; tail chestnut (lighter than in *X. promeropirhynchus*), with shafts becoming blackish in middle portion; remiges and inner webs of primary and greater coverts dull cinnamon-rufous or light chestnut (much less bright than in *X. promeropirhynchus*), the outer webs of secondaries and five or six outer primaries washed or overlaid on edges with light raw-umber (appearing nearly uniform on the closed wing); inner webs of primaries dusky at tips, this color extending for about 1.50 inches on second quill, from which gradually but decidedly decreasing in extent toward innermost quill. Band on side of head from (and including) lores beneath eyes and across lower half of auriculars light buff, the posterior portion sparsely streaked with dusky; upper portion of ear-coverts more broadly streaked with dusky, forming a broken postocular stripe; above this a stripe of pale buff extending from above the eyes to the occiput, broken by a few narrow, dusky streaks; malar region dusky brown, marked with longitudinal broad spots or streaks of light buff. Chin and upper throat pale buff, the latter with several dashes or irregular streaks of light olive-brown; fore-neck and sides of neck light olive-brown, broadly streaked with pale buff, the streaks on fore-neck margined laterally with dusky; chest, breast, and sides colored and marked like the fore-neck, but buff streaks broader (averaging about .15 of an inch) and more distinctly margined with blackish; flanks raw-umber brown, less distinctly streaked; belly tawny-brown, marked with broad, serrated streaks of buff, margined on each side by a row of distinct black, deltoid spots; under tail-coverts somewhat similarly marked, but streaks more regular and spots much less distinct; under wing-coverts ochraceous, with obliquely transverse spots or interrupted bars of blackish. Bill light grayish horn-color, dusky at base; legs and feet grayish black. Length (skin, neck stretched), 13.30; wing, 5.80; tail, 5.70; culmen, 2.00; depth of bill at gonydeal angle, .40; tarsus, 1.25; middle toe, 1.05.

With almost exactly the pattern of coloration characterizing *X. promeropirhynchus*, this species has a closer general resemblance, on account of the prevalent olivaceous coloring, to *X. albicollis*; but the latter differs conspicuously in the decided black ground-color of the pileum, very much narrower streaks on breast, etc., bars on abdomen, darker chestnut of the tail, and several other characters. It does not require comparison with any other species except *X. ignotus, nobis*, which is much more rufescent, has the stripes on the breast, etc., much less regular, the throat whiter, etc.

Xiphocolaptes ignotus, sp. nov.

SP. CHAR.—Similar to *X. virgatus*, but much more rufescent, streaks on pileum and hind-neck much narrower, those on breast, etc., much less regular, throat whiter, belly less distinctly spotted, and under tail-coverts barred with dusky.

HAB.—Ecuador.

Young male (type, No. 5263, Am. Mus. Nat. Hist., Ecuador; Verreaux collection, No. 38684).—Pileum, hind-neck, back, and scapulars mummy-brown, the first two narrowly streaked with light brownish or tawny buff, the upper back with a few narrow shaft-lines of the same; wings (including lesser and middle coverts), lower back, rump, upper tail-coverts, and tail, deep cinnamon-rufous or hazel, the outer webs of greater wing-coverts, primary coverts, and primaries more like the color of the back, and terminal portion of inner webs of six outer primaries dull dusky brown. Sides of head streaked with light buff and deep brown, the latter prevailing on upper portion of auricular region, the former predominating elsewhere; the two colors in about equal amount on malar region. Chin and upper throat plain dull white; rest of under parts light tawny-brown, the chest, breast, and sides broadly streaked with pale buff, each streak margined laterally with a blackish line; middle of lower breast with similar but more irregular streaks, with the blackish margin broken into spots, the belly similarly marked, but the paler streaks less defined and the general color more tawny; under tail-coverts broadly barred with blackish, the bars interrupted, however, by a narrow pale tawny streak along the shaft of each feather. Bill horn-color, becoming brownish white at tip; legs and feet dusky horn-color. Length (mounted specimen), about 10.00; wing, 5.75; tail, 4.80; culmen, 1.87; depth of bill at gonydeal angle, .40; tarsus, 1.25; middle toe, 1.12.

The specimen described is undoubtedly a young bird, though fully grown, except perhaps as to the bill. The adult would doubtless be somewhat different in plumage, but, judging from other species, could not be so much different as to render its identity with any other species with which it has been compared at all likely.

Xiphocolaptes compressirostris TACZAN.

? *Xiphocolaptes promeropirhynchus* SCL., P. Z. S., 1859, 140 (Pallatanga, Ecuador).—SCL. & SALV., P. Z. S., 1873, 780 (Huasampilla, Peru).

Xiphocolaptes promeropirhynchus? TACZAN., P. Z. S., 1879, 231 (Tambillo, Peru).

Xiphocolaptes compressirostris TACZAN., P. Z. S., Jan. 3, 1882, 28 (Rayurmana and Tambillo, N. E. Peru); Orn. du Pérou, II, 1884, 172.—TACZAN. and VON BERL., P. Z. S., 1885, 98 (San Rafael, Ecuador).

HAB.—Northern Peru and Southern Ecuador.

SP. CHAR.—“Similar to *X. promeropirhynchus*, but bill shorter, more compressed, and pallid; fulvous streaks of the pileum and hind-neck narrower; back unicolored; throat fulvous, with two longitudinal stripes

of brown; middle of belly broadly ochraceous, spotted with black; stripes of the breast margined with black lines; under tail-coverts brownish rusty, varied with black; wings and tail darker." (TACZAN., P. Z. S., 1882, 28; translation.)

Adult male.—"Entirely similar to *X. promeropirhynchus*, but differing in several details, particularly in the general coloration of the plumage being deeper; the rusty on the top of the head and neck much narrower, reduced to the shaft alone, and slightly enlarged on the barbels on the tip; the front part of the back would be almost unstriped did not the yellowish shafts of the feathers of this part produce some indication of stripes; throat uniform fulvous, crossed for whole length by two stripes formed by a series of brown spots; on the lower part of the throat, the breast, the upper abdomen, and the flanks rusty stripes, bordered on both sides by a well-defined black line; the middle of the abdomen mostly covered by feathers of an ochreous fulvous, of which each one is variegated by a series of black transverse stripes interrupted in the middle, so as to form a pronounced spotting; the under tail-coverts deeper and more rusty than the preceding [belly] and equally variegated with black; size somewhat larger [than *X. promeropirhynchus*], bill less long, more elevated and more compressed. Upper mandible of a horny-gray, with the tip black, lighter along the tomia, the lower one horn-blackish, passing gradually into plumbeous-gray towards the base; feet of an olive-plumbeous; iris deep brown.

"Total length, 342-350^{mm} [13.42-13.78 inches]; extent, 458-460^{mm} [18.00-18.11 inches]; wing, 152^{mm} [5.94 inches]; tail, 135^{mm} [5.31 inches]; bill, 52^{mm} [2.00 inches]; height of bill opposite nostrils, 12^{mm} [.47 inch]; length of tarsus, 32^{mm} [1.25 inches]; external toe without claw, 28^{mm} [1.10 inches]." (TACZAN., Orn. du Pérou, 1, 1884, pp. 172, 173; translation.)

I refer with some doubt to this species a fine specimen from Guayaquil, Ecuador, in the National Museum collection (No. 101287, 1884, Dr. William H. Jones, U. S. Navy). It agrees with the above description so far as coloration is concerned, except that the back has narrow, pale, shaft-streaks, and the throat has four instead of two brown stripes. But the bill, instead of being shorter and more compressed than in *X. promeropirhynchus*, is longer and every way thicker, the culmen measuring 2.20, the depth at gonydeal angle .40, while it is also much more deurved.

Should this bird prove to be distinct from *X. compressirostris*, it might be appropriately named *X. saturatus*; and in view of the possibility of this proving to be the case, I append the following description:

Adult (No. 101287, Guayaquil, Ecuador, 1884; Dr. William H. Jones, U. S. Navy).—Pileum rather deep bistre (paler than in most examples of *X. promeropirhynchus*), each feather with a very fine mesial line or shaft-streak of buff; hind-neck and upper back similar, but rather lighter and brighter, with the streaks still narrower; scapulars, wing-

coverts, and middle back Vandyke-brown; lower back, rump, upper tail coverts, and remiges deep chestnut, the inner webs of longer primaries with terminal portion abruptly dusky (for the distance of 1.50 on third quill); tail very dark chestnut or chocolate. Supra-auricular region buff, streaked with deep brown; upper portion of auriculars deep brown narrowly streaked with brownish buff; a broad band of nearly plain buff on side of head, extending from lores beneath eyes over lower half, or more, of auriculars; beneath this a broad malar stripe of dark brown, streaked with buff; chin and throat dull buffy, the lower portion of the latter with several lines of dark brown; rest of lower parts deep raw-umber (inclining to burnt-umber laterally and posteriorly), the chest and breast very broadly streaked with buff, each buff streak margined on each side by a narrower streak of black; whole belly spotted with black, the median portion of each feather deep buff; under tail-coverts lighter burnt-umber, less distinctly spotted with dusky and streaked with buffy or light rusty. Bill deep horn-color, strongly decurved; feet dusky. Length (skin), 10.20; wing, 5.80; tail, 4.60; culmen, 2.20 (exposed part 1.90); bill from nostril, 1.55; depth of bill at angle of gonys, .40; tarsus, 1.28.

Speaking of a "female from San Rafael [Ecuador] collected on the 1st of March," Taczanowski (P. Z. S., 1885, pp. 98, 99) says:

This bird is intermediate between those collected in Peru and the *X. promeropirhynchus* (Less.) from New Granada, but more nearly allied to the former in many respects. It has the two brownish stripes on the throat well pronounced. The middle of the abdomen is equally strongly spotted in its whole extent up to the breast, on the middle of which, even, there are also some black spots. The bill is intermediate, almost as high as in the Peruvian birds, but not quite so compressed. It seems to be even broader than in the six birds from New Granada (museums of Warsaw and von Berlepsch), with which it has been compared. The color of the bill is also intermediate, darker than that of the bill of the Peruvian bird, but not black as in *X. promeropirhynchus*.

Xiphocolaptes cinnamomeus, sp. nov.

SP. CHAR.—Smallest of the genus (wing 5.20, tail 4.30). Pileum cinnamon-brown (not very different from color of the back), narrowly streaked with cinnamon-buff; lower parts light wood-brown, broadly streaked with pale dull buffy, the belly marked with small, rather indistinct transverse spots of dull grayish-brown, the breast with a few similar markings; chin, upper throat, lores, supra-auricular stripe, and broader stripe beneath eyes, buff.

HAB.—Eastern Brazil (Bahia?).

Adult (Type, No. 7868, Mus. Comp. Zool., "Bahia, Brazil; A. de Lacerda").—Pileum and hind-neck cinnamon-brown, each feather with a narrow and not very distinct mesial streak of pale cinnamon or cinnamon-buff; back and scapulars cinnamon-brown, tinged with rusty, the former with narrow shaft-streaks of pale cinnamon-buff; lower

* There is probably a mistake in the locality, the skin, a very perfect one, being of the unmistakable handsome, "make" of specimens from Ceará.

back, rump, and upper tail-coverts clear cinnamon-rufous; wings light cinnamon-rufous, outer webs of wing-coverts chiefly cinnamon-brown, and edges of remiges (except tertials and inner primaries) inclining to the same; tail deeper cinnamon-rufous, inclining to pale chestnut, the shafts of ten middle feathers blackish except towards tips. Lores, narrow supra-auricular stripe, and broader stripe from beneath eye across lower half of auriculars, plain dull buffy; a postocular stripe (occupying upper half of auriculars) and broad malar stripe dull cinnamon-brown, very indistinctly streaked with paler; chin and upper throat plain pale buffy; rest of under parts light wood-brown (or pale buffy cinnamon-brown), the lower throat, chest, breast, sides, and flanks, rather broadly streaked with pale buffy (streaks narrower on sides and flanks), some of the streaks, especially on breast, margined on each side with small spots of darker brown than the general color; belly with similar but more numerous spots, becoming nearly obsolete posteriorly; under tail-coverts light cinnamon, streaked with pale buffy; axillars and under wing-coverts light ochraceous marked with narrow transverse spots of dusky. Upper mandible dark horn-color, fading into pale horn-color terminally; lower mandible pale horn-color, paler and more yellowish on gonydeal angle, dusky horn-color basally; legs and feet horn-dusky. Length (skin), 10.90; wing, 5.20; tail, 4.30; culmen, 2.00; depth of bill at gonydeal angle, .40; tarsus, 1.18; middle toe, 1.00.

With the single exception of *X. major* (Vieill.), this is by far the most strongly characterized species that I have seen, and scarcely needs comparison with any other.

Xiphocolaptes major (VIEILL.).

Dendrocopus major VIEILL., Nouv. Dict., XXVI, 1818, 118 (Paraguay; *ex Trapadore Grande AZARA*); Enc. Méth., 1:23, 624.

Dendrocolaptes major BONAP., Consp., I, 1850, 207.—LAFR., Rev. et Mag. Zool., 1850, 103.

Xiphocolaptes major VON BERL., J. f. O., Jan., 1887, 15 (Paraguay).—(?) SALVIN, Ibis, 1880, 359 (Tucuman, Arg. Rep.).—(?) WHITE, P. Z. S., 1882, 613 (Salta, Arg. Rep.).—(?) SCL. & HUDSON, Arg. Orn., I, 1888, 201 (part; Oran, Arg. Rep.; not the description!).

Dendrocolaptes rubiginosus LAFR., Mag. de Zool., 1833, Ois., pl. 16 (Buenos Ayres; type examined!).

SP. CHAR.—Above clear cinnamon-rufous, much paler on head and neck and darker on tail; ear-coverts light chestnut; chin and throat pale cinnamon streaked with buffy whitish; other under parts deeper cinnamon, streaked with pale buffy, the sides, flanks, and under tail-coverts rusty.

HAB.—Paraguay and Argentine Republic.

Adult male (No. 16327, Paraguay, June, 1859; Capt. T. J. Page, U. S. Navy).—Head and neck cinnamon-color, the chin and throat much paler and streaked with buffy; ear-coverts light chestnut; lores mixed dusky and dull buffy-whitish. Upper parts (except head and neck) clear cinnamon-rufous, deepening into chestnut on tail. Under surface of body

light cinnamon, tinged with rusty, streaked with pale buffy, the middle of the belly barred with brownish; sides, flanks, under tail coverts, and under wing-coverts nearly uniform cinnamon-rufous or rusty. Bill horn-colored basally, horn-whitish on terminal half; legs and feet dusky.* Length (skin), 12.00; wing, 5.80; tail, 4.50; culmen, 2.32; tarsus, 1.30; middle toe, 1.07.

The type of *Dendrocolaptes rubiginosus* Lafr., now before me, agrees closely in coloration with the specimen described above, and undoubtedly belongs to the same species. It has the chin and throat a little paler, however, and the ear-coverts less distinctly chestnut, and the bill almost wholly horn-whitish. Length (mounted specimen), 11.50; wing, 6.00; tail, 4.80; culmen, 2.52; depth of bill at angle, .42; tarsus, 1.40; middle toe, 1.12.

Speaking of specimens from Lambaré, Paraguay, Count von Berlepsch remarks as follows (J. f. O., 1887, 15):

The female collected on the 8th of January has blackish edges on the tips of the feathers of the crown, of which markings the other female shows no trace. The other has conspicuously red-brown cheeks [auriculars] and seems to be an older, more highly-colored bird. This bird also agrees essentially with a specimen in my collection from Tucuman.

It should be noted that in Vieillot's description of this species is an important error, in the statement that the under parts are streaked with black, whereas they are streaked with whitish. Since Vieillot expressly says that all the *other* species of the genus are streaked with white, it would seem that the mistake is not a mere "slip of the pen," thus rendering it probable that Azara himself, inadvertently perhaps, committed the error.

Xiphocolaptes major castaneus, subsp. nov.

Xiphocolaptes major SCL., Cat. Am. B., 1861, 164 (Bolivia; *nee Dendrocolaptes major* VIEILL.).—SCL. & SALV., Ex. Orn., pt. v, Jan., 1863, 71 (excl. syn.), pl. 36 (Bolivia).—SCL. & HUDSON, Arg. Orn., I, 1883, 201, part (description).

SP. CHAR.—Similar to *X. major* (Vieill.) of Paraguay and Argentina, but much deeper colored, especially on the head, neck, and under parts, the chin and throat dull russet-brown, instead of cinnamon-buffy, the light streaks of breast, etc., much narrower, bars on belly obsolete, and under tail-coverts deep chestnut.

HAB.—Bolivia.

Adult female (type, No. 33648, Am. Mus. Nat. Hist., Piedra Blanca, Bolivia, April 20, 1886; H. H. Smith).—Head russet-brown (scarcely paler on chin and throat), the ear-coverts chestnut, and the lores dusky; hind-neck chestnut-russet, deepening into bright rufous-chestnut on other upper parts, the upper tail-coverts being deep chestnut and the tail dark chestnut, with dusky shafts; feathers of pileum, hind-neck, upper back, chin, and throat with very narrow and indistinct paler shaft-streaks. Color of the under parts gradually brightening from brownish russet

* "Iris light brown; beak pale slate, tip darker; legs and feet olive-green." (DURNFORD, *Ibis*, 1880, 359.)

on the throat through deep russet on the under surface of the body, where strongly tinged with rusty chestnut to deep chestnut on the under tail-coverts; chest, breast, upper belly, and anterior portion of sides with narrow mesial streaks or shaft-streaks of pale tawny, the middle of the belly showing a few, hardly discernible, faint bars of dull brownish; axillars and under wing-coverts rufous-tawny. Bill horn color, paler at tip and on tomia and gonys; legs and feet horn-dusky. Length (skin), 12.80; wing, 5.70; tail, 4.70; culmen, 2.20; depth of bill at angle, .38; tarsus, 1.30; middle toe, 1.08.

There can be no doubt of the distinctness of the Bolivian bird from that of Paraguay and Buenos Ayres, at least as a well-marked geographical race. The description and colored plate in the Exotic Ornithology, "taken from a specimen in Sclater's collection, believed to be from Bolivia," agree very closely with the example described above.

The following species I have not seen :

(1) *Xiphocolaptes simpliciceps* LAFR.

Dendrocolaptes simpliciceps "Pucheran et Lafresnaye, in Mus. Parisiense," LAFR., Rev. et Mag. Zool., 1850, 100 (Yungas, Bolivia).

SP. CHAR.—"Above immaculate olive-brown, the head and neck unicolorous; wing, rump, and tail cinnamon, the tail more intense; beneath same color as the back, but paler, the whole throat, superciliary stripe, another beneath the eyes, and extremely narrow oblong spots on the upper lateral portion of the head and on the breast, white, slightly tinged with ochraceous; middle of the belly and anal region paler, spotted with black, as if banded; the under wing-coverts yellowish ochraceous, distantly streaked with black; remiges brown or chestnut, black at tips.

"HABIT.—Yungas, collected by M. d'Orbigny." (Lafr., *l. c.*; translation.)

The most obvious character of *X. simpliciceps* consists in the entire absence of streaks on the pileum and hind-neck, in which respect it differs from every other known species of the genus excepting the otherwise very different *X. major* and *X. castaneus*; otherwise it seems to agree quite nearly with *X. compressirostris*,* in which the streaks on the head and neck above are narrower than in allied species.

(2) *Xiphocolaptes lineatocephalus* GRAY.

Dendrocolaptes lineatocephalus GRAY, Gen. B., I, 1847, pl. 43.

Dendrocoops lineatocephalus BONAP., Consp., I, 1850, 207.

Xiphocolaptes lineatocephalus GRAY, Hand-l., I, 1869, 176, No. 287.

No description is given of this bird, neither is any habitat assigned to it. In the "Hand-list," however, the habitat is given as Bolivia, while "*promeropirhynchus*, p., Sclat." is given as a synonym. It is doubtless one of several forms included by some authors under the comprehensive

* Lafresnaye (*l. c.*) compares it with *X. promeropirhynchus*, *X. compressirostris* being then unknown.

specific title of *promeropirhynchus*, but is probably different from the Colombian bird to which the name properly belongs. Since the type is doubtless in the British Museum, it should be easy to ascertain its true status.

(3) *Xiphocolaptes procerus* CAB. & HEINE.

Xiphocolaptes procerus CAB. & HEINE, Mus. Hein., II, Sept. 10, 1859, 36 (Caracas).—SCL., Cat. Am. B., 1861, 163 (Venezuela).—SCL. & SALV., Ex. Orn., I, 1869, 72; Nom. Neotr., 1873, 68.

? *Xiphocolaptes promeropirhynchus* SCL. & SALV., P. Z. S., 1868, 117 (Venezuela).

SP. CHAR.—“Similar to the following [*X. promeropirhynchus*] but larger, paler, bill longer and pale horn-color, throat yellowish-white, immaculate, and streaks and spots of under parts more indistinct.—Total length, 1' 6''; wing, 5' 11''; tars., 1''; tail, 5''.

“These specimens from Caracas seem to be intermediate, so to speak, between *X. emigrans* and *X. promeropirhynchus*. The head is lighter olive-brown, wing and tail lighter cinnamon-brown than in *X. promeropirhynchus*, while in *X. emigrans* the contour feathers are still more olive and the markings on the belly almost entirely obsolete. Whether *X. lineatocephalus* Gray belongs to this or to the following species [*X. promeropirhynchus*] it is not possible to determine with certainty from the figure alone without description and locality.” (Cab. & Heine, *l. c.*; translation.)

This species is unknown to me except from the above description.

(4) *Xiphocolaptes fortis* HEINE.

Xiphocolaptes fortis HEINE, J. f. O., May, 1860, 185 (hab. ignot.).

SP. CHAR.—“The whole upper surface is exactly as in *X. procerus*, to which, on the whole, it is most nearly related; but the wings and tail are somewhat darker cinnamon red-brown, and the head is a little lighter colored and lighter striped; the under side may almost be said to be red-brown, and does not show the slightest tinge of the olive-colored admixture so very prominent in *X. emigrans*, less so in *X. procerus*, and also entirely wanting in *X. promeropirhynchus*. The color of the throat is brownish-yellow, between the yellow of *X. procerus* and the brownish of *X. promeropirhynchus*. The fore-neck is but very narrowly striped, almost more so than in *X. emigrans*. The blackish spot markings which in *X. procerus* and *X. promeropirhynchus* almost extend over the whole breast, in the present species hardly take up more space than in *X. emigrans*, and hardly more distinct than in the latter species, and are restricted to the very middle of the belly. Total length, 12 inches; wing, 5' 8'', tail, 4' 9''; culmen, 1' 9''; tarsus, 1' 1''; middle claw without claw, 1' 1''; hind toe without claw, 5''.

“It is tolerably intermediate between the three nearly related species, *X. emigrans* Scl., from Guatemala, *X. promeropirhynchus* (Less.), from New Granada, and *X. procerus* Cab. & Heine, from Venezuela; and judging from this it might, perhaps, have come from Cartagena or Sta.

Marta. In size and coloration it reminds one particularly of the two latter. The stripes and spots of the under side are almost as obsolete as in the first mentioned, and the red-brown of the under side is almost as intense as in the Bogota bird, while the head is lighter than in all three." (Heine, *l. c.*; translation.)

This species would seem to be somewhat closely related to *X. emigrans costaricensis*, but to differ in the more rusty hue of the less distinctly streaked under parts and the lighter ground color of the pileum.

SMITHSONIAN INSTITUTION, June 29, 1889.